

Dual N-Channel MOSFET

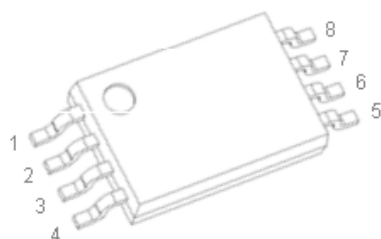
● Features

V_{DS}	$R_{DS(ON)TYP}$	I_D
20V	15.7 mΩ@4.5V	6A
	20 mΩ@2.5V	

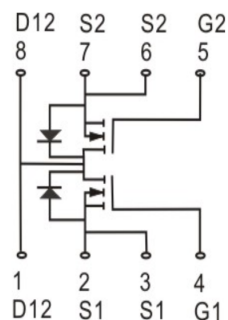
● General Description

- Power Management
- Battery Protection

● Pin Configurations



TSSOP8



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current	I_D	6	A
Pulsed Drain Current (note 1)	I_{DM}	25	A
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	62.5	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^{\circ}\text{C}$

Electrical Characteristics

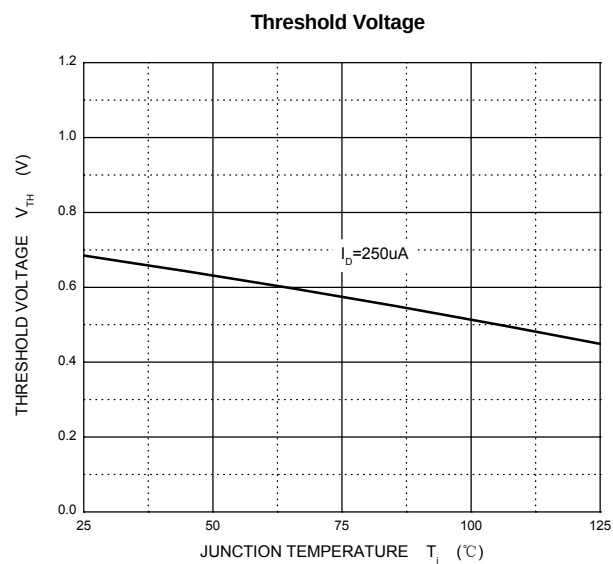
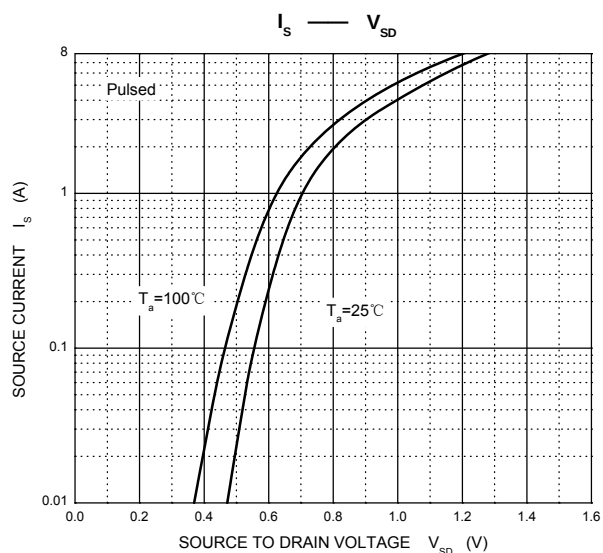
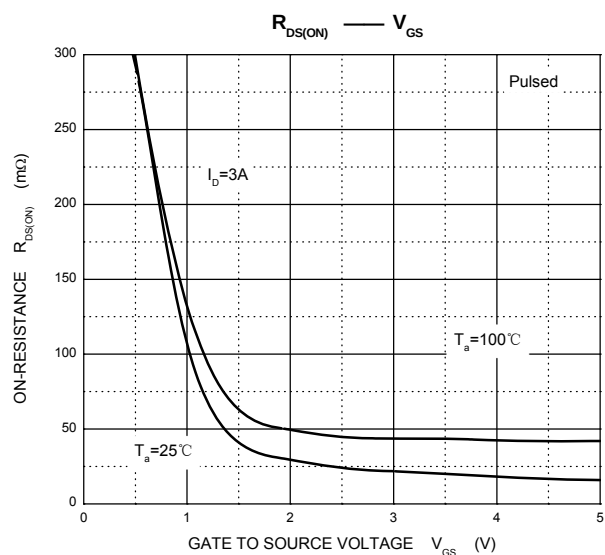
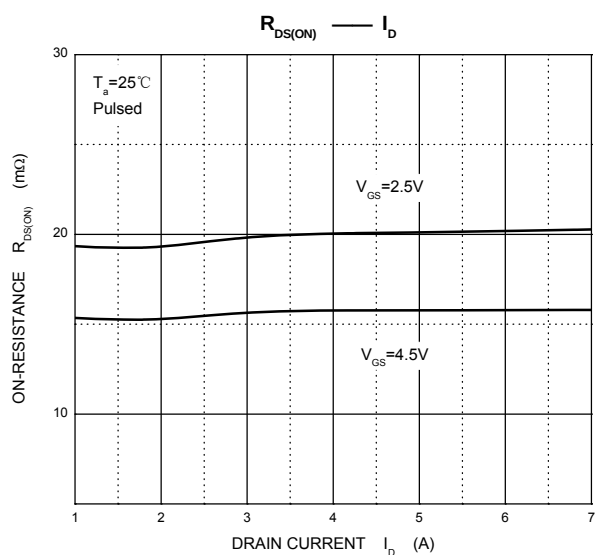
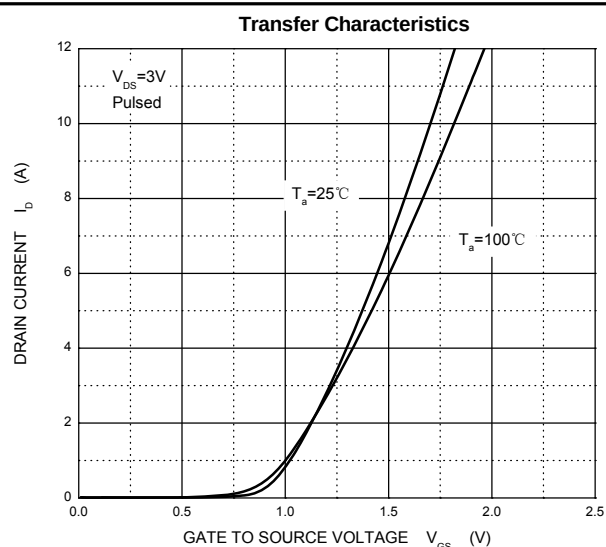
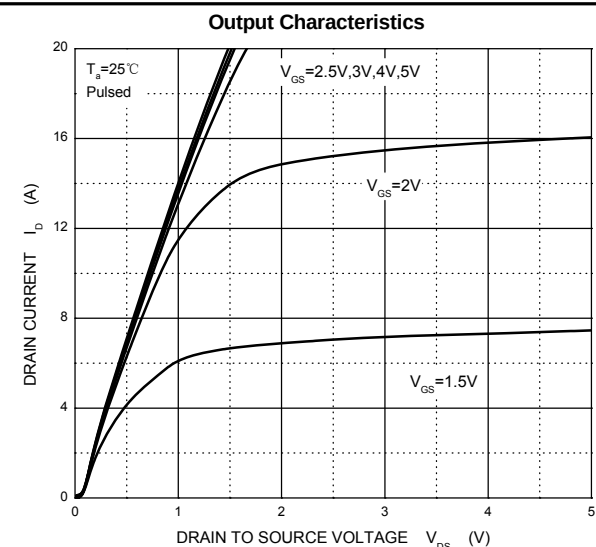
$T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERICTISCS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 18V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.45		1.2	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 6A$		15.7	20	m Ω
		$V_{GS} = 2.5V, I_D = 5A$		20	27	m Ω
Forward tranconductance (note 3)	g_{FS}	$V_{DS} = 5V, I_D = 4.5A$		10		S
Diode forward voltage (note 3)	V_{SD}	$I_S = 1.25A, V_{GS} = 0V$			1.2	V
DYNAMIC CHARACTERICTISCS (note4)						
Input Capacitance	C_{iss}	$V_{DS} = 8V, V_{GS} = 0V, f = 1MHz$		800		pF
Output Capacitance	C_{oss}			155		pF
Reverse Transfer Capacitance	C_{rss}			125		pF
SWITCHING CHARACTERICTISCS (note 4)						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 10V, V_{GS} = 4V, I_D = 1A, R_{GEN} = 10\Omega$		18		ns
Turn-on rise time	t_r			5		ns
Turn-off delay time	$t_{d(off)}$			43		ns
Turn-off fall time	t_f			20		ns
Total Gate Charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 4A$		11		nC
Gate-Source Charge	Q_{gs}			2.3		nC
Gate-Drain Charge	Q_{gd}			2.5		nC

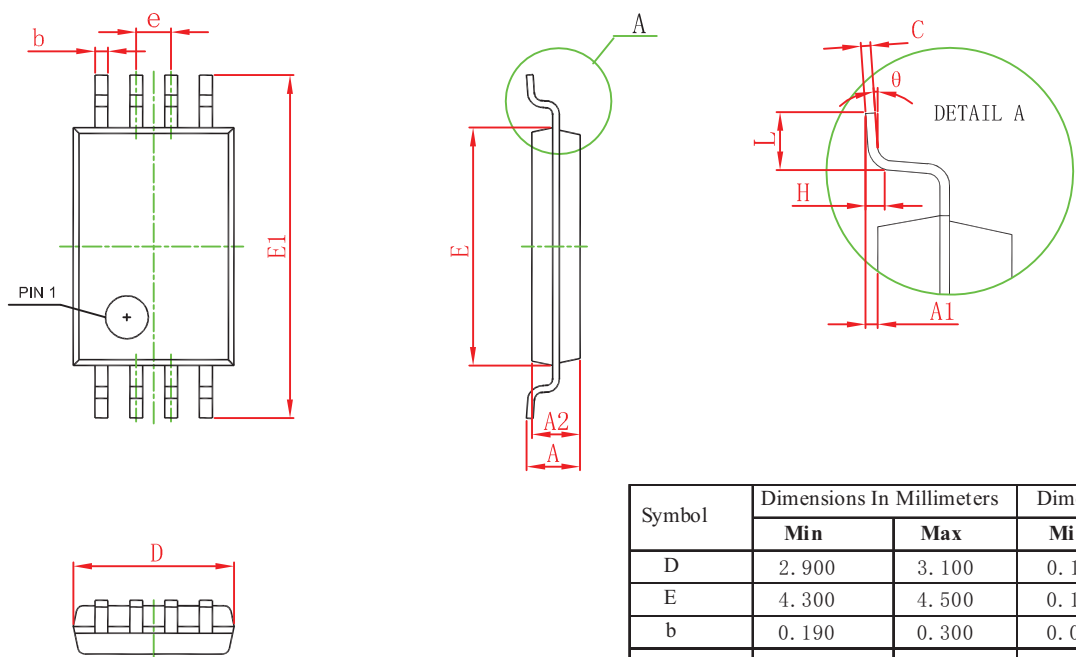
Notes :

1. Repetitive rating: Pulse width limited by maximum junction temperature
2. Surface Mounted on FR4 board, $t \leq 10$ sec.
3. Pulse test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production.

Typical Electrical and Thermal Characteristics



Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.200		0.047
A2	0.800	1.000	0.031	0.039
A1	0.050	0.150	0.002	0.006
e	0.65 (BSC)		0.026 (BSC)	
L	0.500	0.700	0.020	0.028
H	0.25(TYP)		0.01(TYP)	
θ	1°	7°	1°	7°